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**PATENT** 

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

Akkerman et al.

Serial No.:

10/701,183

Filed:

November 4, 2003

For:

DEVICES HAVING LARGE ORGANIC SEMICONDUCTOR CRYSTALS AND

METHODS OF MAKING THE SAME

Group:

2871

Examiner:

Not Yet Assigned

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date set forth below:

Signed:

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Name: Marianna Tortorelli

Date: June 14, 2004

Durham, North Carolina June 14, 2004

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

## INFORMATION DISCLOSURE STATEMENT UNDER § 197(a)

Sir:

This Information Disclosure Statement is being filed before a first Official Action has been mailed in this case.

Pursuant to 37 C.F.R. 1.56, 1.97 and 1.98, applicant's attorney wishes to bring to the attention of the Patent and Trademark Office the following items listed on the accompanying Forms PTO/SB/08A and PTO/SB/08B.

## **ITEMS**

	Document No.	<u>Publication</u>	Patentee/Applicant
1.	U.S. Patent No. 5,192,580	<u>Date</u> 03/09/1993	Blanchet-Fincher
2.	U.S. Patent No. 5,288,528	02/22/1994	Blanchet-Fincher
3.	U.S. Patent No. 5,347,144	09/13/1994	Garnier et al.
4.	U.S. Patent No. 5,523,192	06/04/1996	Blanchet-Fincher
5.	U.S. Patent No. 5,563,019	10/08/1996	Blanchet-Fincher
6.	U.S. Patent No. 5,625,199	04/29/1997	Baumbach et al.
7.	U.S. Patent No. 5,766,819	06/16/1998	Blanchet-Fincher
8.	U.S. Patent No. 5,840,463	11/24/1998	Blanchet-Fincher
9.	U.S. Patent No. 5,981,970	11/09/1999	Dimitrakopoulos et al.
10.	U.S. Patent No. 6,051,318	04/18/2000	Kwon
11.	U.S. Patent No. 6,143,451	11/07/2000	Blanchet-Fincher
12.	U.S. Patent No. 6,146,792	11/14/2000	Blanchet-Fincher et al.
13.	U.S. Patent No. 6,174,651	01/16/2001	Thakur
14.	U.S. Patent No. 6,265,243	07/24/2001	Katz et al.
15.	U.S. Patent No. 6,352,811	03/05/2002	Patel et al.
16.	U.S. Patent No. 6,352,812	03/05/2002	Shimazu et al.
17.	U.S. Patent No. 6,403,397	06/11/2002	Katz
18.	U.S. Patent No. 6,551,717	04/22/2003	Katz et al.
19.	U.S. Publication No. 2002/0149315 A1	10/17/2002	Blanchet-Fincher
20.	U.S. Application No. 10/256,885	09/27/2002	Bao et al.
21.	U.S. Application No. 10/669,780	09/24/2003	Bao

22.	U.S. Application No. 60/505,533	09/24/2003	Meth
23.	U.S. Application No. 60/505,880	09/24/2003	Meth et al.
24.	U.S. Application No. 10/671,303	09/24/2003	Bao et al.
25.	U.S. Application No. 10/722,613	11/26/2003	Aizenberg et al.
26.	PCT Publication No. WO 01/87634 A2	11/22/2001	E.I. du Pont de Nemours and Company
27.	PCT Publication No. WO 02/08801 A1	01/31/2002	E.I. du Pont de Nemours and Company
28.	PCT Publication No. WO 02/092352 A1	11/21/2002	E.I. du Pont de Nemours and Company

## Other Publications

- 29. AFZALI ET AL., High-Performance, Solution-Processed Organic Thin Film Transistors from a Novel Pentacene Precursor, J. Am. Chem. Soc., 2002, Page(s) 8812-8813, Volume 124
- 30. AFZALI ET AL., Synthesis and Application of Pentacene Precursor in OTFT, Publisher: IBM Research Division, Published in: Yorktown Heights, NY
- 31. AIZENBERG ET AL., Control of Crystal Nucleation by Patterned Self-Assembled Monolayers, Nature, April 8, 1999, Page(s) 495-498, Volume 398
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- 33. AKIMICHI ET AL., Field-Effect Transistors Using Alkyl Substituted Oligothiophenes, Appl. Phys. Lett., 1991, Page(s) 1500-1502, Volume 58, Number 14
- 34. BUTKO ET AL., Limit of Field Effect Mobility on Pentacene Single Crystal, Publisher: Los Alamos National Laboratory, Published in: Los Alamos, New Mexico
- 35. CAI ET AL., Self Assembly in Ultrahigh Vacuum: Growth of Organic Thin Films with a Stable In-Plane Directional Order, J. Am. Chem. Soc., 1998, Page(s) 8563-8564, Volume 120

- 36. COLLET ET AL., High Anisotropic Conductivity in Organic Insulator/Semiconductor Monolayer Heterostructure, Applied Physics Letters, 3/6/2000, Page(s) 1339-1341, Volume 76, Number 10, Publisher: American Institute of Physics
- 37. COLLET ET AL., Low-Voltage, 30 nm Channel Length, Organic Transistors with a Self-Assembled Monolayer as Gate Insulating Films, Applied Physics Letters, April 3, 2000, Page(s) 1941-1943, Volume 76, Number 14
- 38. COLLET ET AL., Nano-field Effect Transistor with an Organic Self-Assembled Monolayer as Gate Insulator, Applied Physics Letters, November 2, 1998, Page(s) 2681-2683, Volume 73, Number 18
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- 56. TANIMOTO ET AL., Binary Phase Chlorination of Aromatic Hydrocarbons with Solid Copper(II) Chloride: Reaction Mechanism, Bull. Chem. Soc. Japan, 1979, Page(s) 3586-3591, Volume 52, Number 12
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The filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made nor shall it be construed as an admission that the

information cited is considered to be material to patentability, nor shall it be construed that no other material information exists.

Respectfully submitted,

yay M. Brown Reg. No. 30,033

Priest & Goldstein, PLLC 5015 Southpark Drive, Suite 230

Durham, NC 27713-7736

(919) 806-1600

PTO/SB/08a (08-03)

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Substitute for form 1449A/PTO  INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Co	mplete if Known
				Application Number	10/701,183
				Filing Date	November 4, 2003
				First Named Inventor	Akkerman et al.
	(Use as many sheets as neces	sary)		Art Unit	2871
				Examiner Name	
Sheet	1	of	5	Attorney Docket Number	100.2498

			U.S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number  Number - Kind Code <sup>2</sup> (# known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
· N.	1	US- 5,192,580	03/09/1993	Blanchet-Fincher	
	2	US- 5,288,528	02/22/1994	Blanchet-Fincher	
	3	US- 5,347,144	09/13/1994	Garnier et al.	
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	19	US- 2002/0149315 A1	10/17/2002	Blanchet-Fincher	
	20	US- 10/256,885	09/27/2002	Bao et al.	

	FOREIGN PATENT DOCUMENTS								
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	No.1	Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> ( <i>if known</i> )	IVIIVI-DD-1111		or Relevant Figures Appear				
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Subs	stitute for form 1449A/PTO			Application Number	10/701,183		
				Filing Date	November 4, 2003		
	STATEMENT BY APPLICANT  (Use as many sheets as necessary)			First Named Inventor	Akkerman et al.		
S				Art Unit	2871		
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			U.S. PATENT	DOCUMENTS	
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	21	US- 10/669,780	09/24/2003	Bao	
	22	US- 60/505,533	09/24/2003	Meth	
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	24	US- 10/671,303	09/24/2003	Bao et al.	
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FOREIGN PATENT DOCUMENTS								
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	26	WO 01/87634 A2	11/22/2001	E.I. du Pont de Nemours and Company		_		
	27	WO 02/08801 A1	01/31/2002	E.I. du Pont de Nemours and Company				
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	Substitute for form 1	449B/PTO			Complete if Known			
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She	et	3	of	5	Attorney Docket Number	100.2498		

Examiner Cite Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.  29 AFZALI ET AL., High-Performance, Solution-Processed Organic Thin Film Transistors from a Novel Pentacene Precursor, J. Am. Chem. Soc., 2002, Page(s) 8812-8813, Volume 124  30 AFZALI ET AL., Synthesis and Application of Pentacene Precursor in OTFT, Publisher: IBM Research Division, Published in: Yorktown Heights, NY  31 AIZENBERG ET AL., Control of Crystal Nucleation by Patterned Self-Assembled Monolayers, Nature, April 8, 1999, Page(s) 495-498, Volume 398  32 AIZENBERG ET AL., Oriented Growth of Calcite Controlled by Self-Assembled Monolayers of Functionalized Alkanethiols Supported on Gold and Silver, J. Am. Chem. Soc., 1999, Page(s) 4500-4509, Volume 121  33 AKIMICHI ET AL., Field-Effect Transistors Using Alkyl Substituted Oligothiophenes, Appl. Phys. Lett., 1991, Page(s) 1500-1502, Volume 58, Number 14  34 BUTKO ET AL., Limit of Field Effect Mobility on Pentacene Single Crystal, Publisher: Los Alamos National Laboratory, Published in: Los Alamos, New Mexico  35 CALET AL., Self Assembly in Ultrahigh Vacuum: Growth of Organic Thin Films with a Stable In-Plane Directional Order, J. Am. Chem. Soc., 1998, Page(s) 8563-8564, Volume 120  36 COLLET ET AL., High Anisotropic Conductivity in Organic Insulator/Semiconductor Monolayer Heterostructure, Applied Physics Letters, 3/6/2000, Page(s) 1339-1341, Volume 76, Number 10, Publisher: American Institute of Physics  37 COLLET ET AL., Nano-field Effect Transistor with an Organic Transistors with a Self-Assembled Monolayer as Gate Insulating Films, Applied Physics Letters, Applied Physics Letters, November 2, 1998, Page(s) 2881-2883, Volume 73, Number 19  38 COLLET ET AL., Synthesis and Characterization of Conjugated Mono- and Dithiol Oligomers and Characterization of Their Self-Assembled Monolayers, La			NON PATENT LITERATURE DOCUMENTS	
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